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## THE CITRINE SPIDER: A NEW GENUS OF TRAPDOOR SPIDER (MYGALOMORPHAE: DIPLURIDAE)

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The Citrine Spider is common and widespread throughout the Wheat-belt. Although known to naturalists for many years and in spite of its attractive and conspicuous colouring it has never been described or scientifically named. The spider occurs in sandy, granite soils throughout the range of the jam and Yorkgum woodlands but is more precisely associated with thickets of teatree (*Melaleuca uncinata*). The burrows are frequently found in the meadows around granite outcrops, both in the small meadows



Plate 1.—*Teyl luculentus*, female paratype (BYM 56/507). Approximately life size.



Plate 2.—*Teyl luculentus*, male paratype (BYM 56/495). Approximately life size.

of the rock slopes and the apron at the base of rocks. Burrows are not closed by a door but are open like a wolf spider's except during the summer when the entrance is sealed with a soil plug. The burrow descends vertically and turns abruptly at the base. Mature nests may be about 25 cm deep. Nests generally have no silk lining and maintain their shape by virtue of the angularity of the sand grains in which they are excavated.

Like all trapdoor spiders, the Citrine Spider takes several years to mature. Males emerge and wander during late autumn and early winter. Eggs are laid in the female nest during spring and the young disperse the following autumn after the first seasonal rains.

The author first found the spider at Emu Hill (near Narembreen) in 1952. Subsequently hundreds of specimens have been located and the

species appears to range over the whole of the Wheatbelt. One other species (to be described later when male specimens are found) has been collected from the granite rocks northeast of Payne's Find. Another group of related species, believed to be derived from the Citrine Spider, construct doors to the nests. These are to be described elsewhere. For the present the genus and the common species are herewith named and described.

Note on name: the generic name is derived from an Aboriginal word meaning a brightly coloured stone; the specific name refers to the shining yellowish colour.

### *TEYL* gen. nov.

Colour: ♀, carapace, sternum and basal segments of legs and palps a shining (glabrous) yellow, sometimes with the thoracic region of the carapace darker. Metatarsi and tarsi often dark brown. Abdomen brownish, frequently speckled. The whole body and legs very sparsely hairy and the shiny yellow integument occasionally suffused with a greenish tinge. Prominent spines on legs; carapace often with heavy marginal spines. Scopula on tarsi and metatarsi very sparse or absent. Tarsal claws bipectinate.

Carapace broad with rounded sides, caput slightly raised, fovea variable, procurved, straight or recurved. Eyes in compact group on a tubercle. Sternum very broad with small sometimes round sigilla, sub marginal. Labium small and broad with anterior indentation; no spinules. Chelicerae with heavy teeth on inner edge (promargin) and small basal row on outer edge (retromargin). Sometimes a group of stout spines (pseudo-rastellum) on apical angle of chelicerae. Male with no spur on first tibia; scopula present on tarsi.

**Distinguishing features:** Broad glabrous carapace with variable fovea, broad sternum with small, sometimes round, submarginal sigilla. Male lacks tibial spur.

### *Teyl luculentus* sp. nov.

**Holotype:** ♀ Locality 14.5 km north of Bruce Rock on Bruce Rock/Merredin Road, 29.viii.1956. Collected by B. Y. Main (BYM 56/499). Deposited in Western Australian Museum.

Colour, body and appendages bright shining yellow in life; abdomen with dark brown, mottled dorsal pattern. Carapace 9.0 mm long, 8.00 mm wide. Fovea recurved. Carapace glabrous and smooth except for stout marginal spines. Eye group 1.4 mm wide and 0.7 mm long, slightly raised. Sternum 4.6 mm long and 4.8 mm wide. Sigilla small, indistinct; posterior ones oval in shape, submarginal; sternum with open pile of long hairs. Labium broad, 0.7 mm long, anteriorly indented. Chelicerae with pseudorastellum of stout bristles. Inner margin of left cheliceral furrow with 8 large teeth and outer margin with 7 small teeth near base; right chelicera with 9 teeth on inner margin, 5 on outer margin.

|       |              | 4                | 1    | 2    | 3   |
|-------|--------------|------------------|------|------|-----|
| Legs: | Leg formula: | 2.95             | 2.84 | 2.66 | 2.3 |
|       |              | (leg length      |      |      |     |
|       |              | = —————          |      |      |     |
|       |              | carapace length) |      |      |     |

|      | Femur | Patella | Tibia | Metatarsus | Tarsus | Total |
|------|-------|---------|-------|------------|--------|-------|
| Palp | 4.5   | 2.5     | 3.5   | —          | 3.0    | 13.5  |
| I    | 7.4   | 4.0     | 6.0   | 5.0        | 3.2    | 25.6  |
| II   | 6.7   | 3.6     | 5.7   | 4.8        | 3.2    | 24.0  |
| III  | 5.5   | 3.0     | 4.0   | 4.7        | 3.5    | 20.7  |
| IV   | 7.5   | 3.5     | 6.0   | 6.6        | 3.6    | 26.6  |

Hairs but no scopula on legs. All segments shining, glazed almost hairless except for femurs. Tarsi without spines. Heavy paired spines on ventral faces of metatarsi I & II. Spines on all faces of metatarsi and tibia, 1 or 2 prolateral spines on patella, a few dorsal spines on femurs; ring of stout spines on coxae and trochanters. Palp tarsus with several ventral spines but lacking the basal pair characteristic of *Chenistonia* and related genera. Abdomen 12.00 mm long. Almost bare except for sparsely scattered, long fine hairs.

**Paratype** ♂. Locality 13 km south of Merredin on Bruce Rock Road 29.viii.56. Collected by B. Y. Main (BYM 56/495). Deposited in Western Australian Museum.

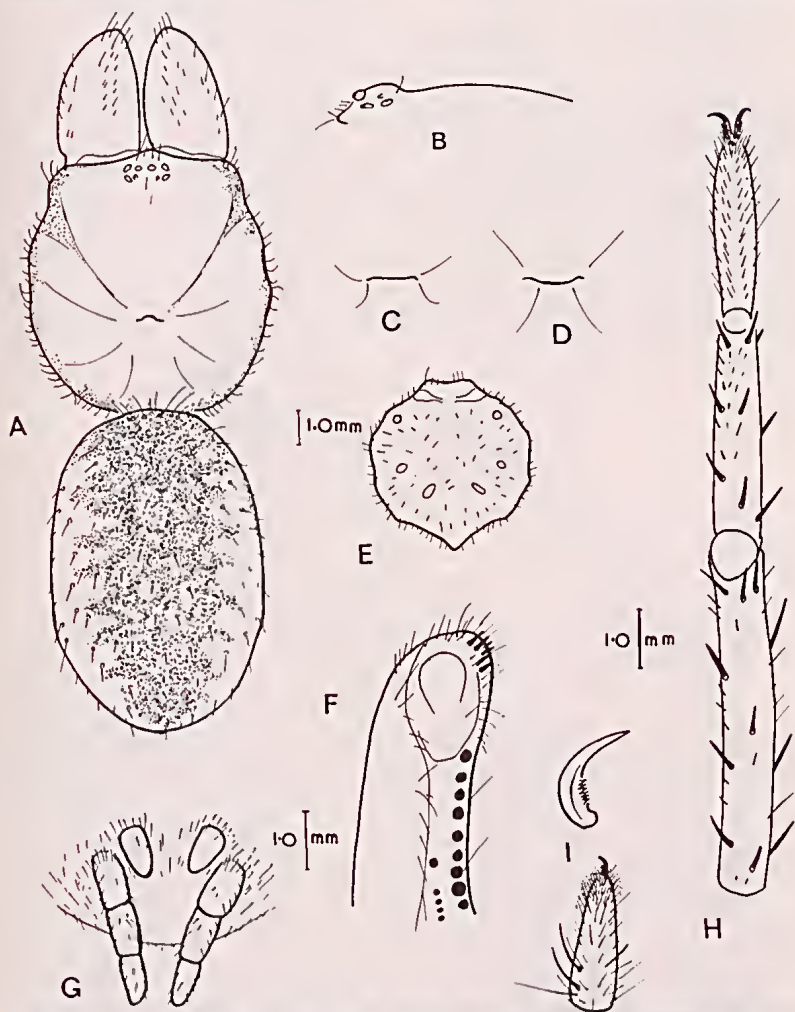


Fig. 1.—*Teyl luculentus*. A, B, E-H, Holotype female (BYM 56/499). A, Carapace and abdomen from above. B, Eye tubercle from side. C, D, Fovea of paratypes (BYM 56/497 and 56/262 respectively). E, Sternum. F, Right chelicera with fang removed to expose position of teeth. G, Spiniferets. H, First right leg, ventral view, spines and hairs. I, Tarsus of right palp; claw enlarged. A, E, same scale. C, D, F, G, H, I, same scale. B, not to scale.

Colour, body and appendages generally yellowish brown; chelicerae dark brown; proximal segments of legs with dark brown smudges, distal segments dark brown; tibia I red and patella reddish brown. Abdomen, dorsally grey-brown with irregular dark brown median mark; ventrally greyish-yellow.

Carapace 6.5 mm long, 5.9 mm wide. Fovca procurved. Sternum broad, shield shaped with round, submarginal sigilla. Heavy spines on metatarsus

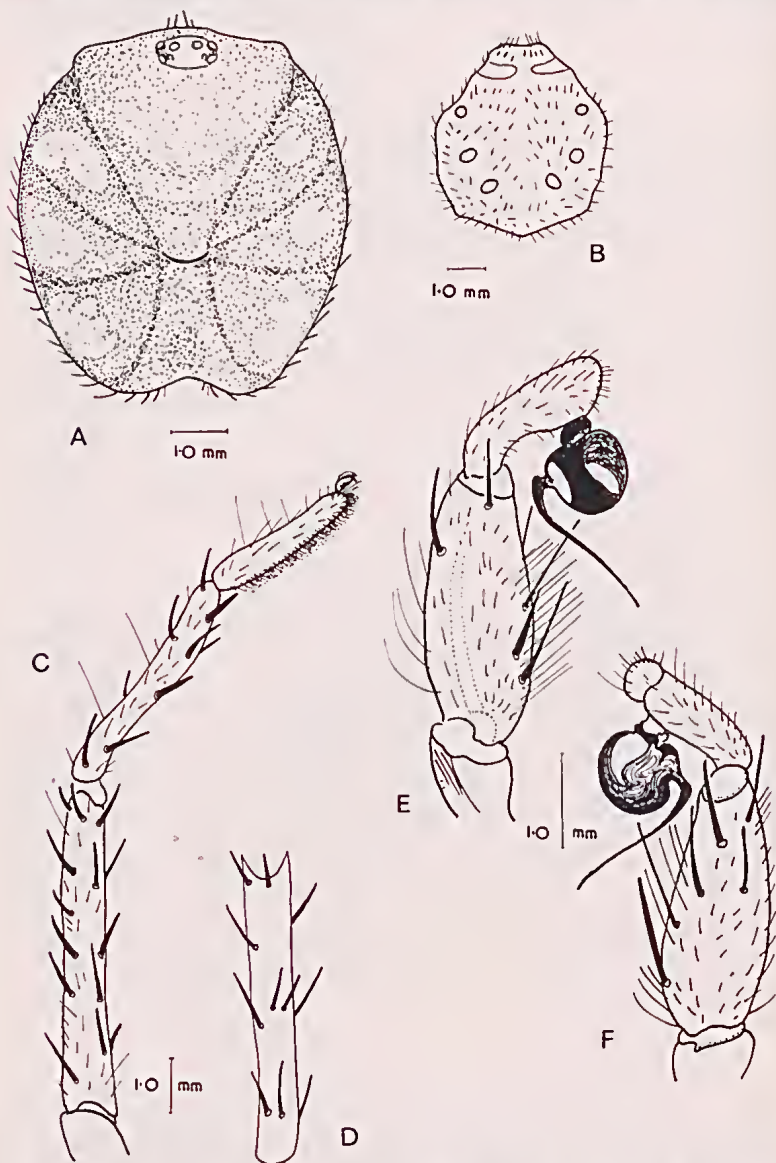


Fig. 2.—*Teyl luculentus*, paratype male (BYM 56/495). A, Carapace. B, Sternum and labium. C, D, First right leg; C, retrolateral view; D, ventral. E, F, Right palp; E, retrolateral view; F, prolateral.



and tibia of first leg. Tarsi with scopula. Palp tibia with 5 long retrolateral spines and 6 prolateral spines; bulb round, stigma curved and finely tapered (see Fig. 2).

| Legs: | Leg formula:     | 4    | 2    | 1    | 3   |
|-------|------------------|------|------|------|-----|
|       |                  | 4.66 | 4.00 | 3.61 | 3.5 |
|       | (leg length)     |      |      |      |     |
|       | =                |      |      |      |     |
|       | carapace length) |      |      |      |     |

Total length of legs: I, 25.74 mm; II, 26.34; III, 23.40; IV, 30.64.

**Notes on other Paratypes:** ♀ ♀

13 km south of Merredin on Merredin/Bruce Roek Road. 29.viii.1956. Collected by B. Y. Main (BYM 56/493). Carapace length, 7.5 mm [W.A. Museum].

Locality data as above (BYM 56/497). [W.A. Museum].

9.5 km from Bruce Roek on Bruce Roek/Doodlakine Road. 29.viii.1956. Collected by B. Y. Main (BYM 56/502). Carapace length, 8.0 mm. Internal genitalia dissected (see Fig. 3). [W.A. Museum].

As above (BYM 56/505). Carapace length, 7.0 mm. Internal genitalia dissected. [W.A. Museum].

As above (BYM 56/507). Carapace length, 7.6 mm. [W.A. Museum].

14.5 km north of Bungulla at "Fairfields". 16.v.1956. Collected by B. Y. Main (BYM 56/262). Carapace length, 4.2 mm. No pseudo-rastellum. Fine bristles on margin of carapace. Scopula on tarsi of palp and first leg. [W.A. Museum].

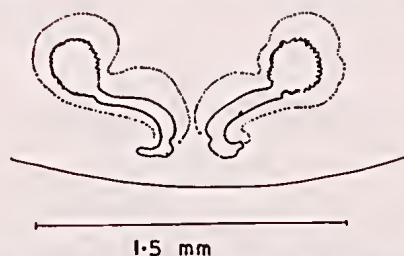


Fig. 3.—*Teyl luculentus*, paratype female (BYM 56/502). Internal genitalia.

**Paratype** ♂ ♂

12.8 km south of Merredin on Merredin/Bruce Roek Road. 29.viii.1956. Collected by B. Y. Main (BYM 56/496). Specimen collected as penultimate instar and reared to maturity the following autumn. Carapace length, 6.4 mm. [Australian Museum].

14.5 km north of Bungulla at "Fairfields". 15.v.1956. Collected by B. Y. Main (BYM 56/258). Collected as penultimate instar and reared to maturity following autumn. Carapace length, 4.9 mm. [W.A. Museum].

**Variability of ♀ ♀.** Some specimens observed to be less markedly spinose having soft bristles instead of stout marginal spines on the carapace and basal segments of legs; thin scopula may be present on tarsi; colour varies from bright yellow to greenish. Delineation of fovea varies—straight, proeurred or reeurred. Pseudo-rastellum on chelicera present or absent.

**Variability of ♂ ♂.** Size at maturity varies. Number and stoutness of spines on palp tibia varies; number of spines on tibia and metatarsus of first legs also variable.

Additional specimens have been collected from the following localities and are stored in the author's collection, housed at the Zoology Department of the University of Western Australia.

Beverley; Boyagin Rock; Bruce Rock area, 13.5 km and 14.5 km N. on Merredin Rd., and 9.5 km on Doodlakine Rd.; 'Fairfields', 14.5 km N. Bungulla; 'Eboraeum', N. Bungulla; Heitman's Serub, N. Bungulla; Bush-fire Rock; Canna; Coolgardie, 25 km S.; Cranbrook; Crossman; Emu Hill (near Narembeen); Goomalling, town reserve, and salt lakes N. of town, and on Bolgart Rd.; Hyden, 8.5 km E., and 22.5 km E. at King Rocks turnoff; Harrismith; Koorarawalyee, 3 km W.; Merredin area, golf course, 6.5 km N., 24 km N., 13 km S.; Mooliaman; Morawa causeway, and 27.0 km W.; Murehison River, at Highway crossing; Northam/Goomalling Rd.; Northampton, 88 km N.; 343 km on Great Northern Highway; Pindabunna; Quindanning, 19 km W.; Quairading; Sandford Rocks (Westonia); Tuttanning Reserve (E. Pingelly); Wongan Hills; Wurarga, 11 km W.; Williams, 21 km S.; Yalgoo; York; Yorkrakine Rock.

#### ACKNOWLEDGEMENTS

Some of the specimens on which this study is based were collected while the author was in receipt of a University of Western Australia Research Grant (1952-1956 inclusive). The author is also indebted to the following people for specimens: M. J. Littlejohn, W. J. Lane, A. R. Main, H. W. Norris and W. H. Butler. The photographs were taken by A. R. Main.

#### ADDITIONS TO THE FAUNA OF BARROW ISLAND, W.A.

By W. H. BUTLER, Wanneroo

Subsequent to the publication of my summary of the vertebrate fauna of Barrow Island (*W. Aust. Nat.*, 11 (7), 1970: 149-160), I visited the island on a number of occasions and have added new or further records to the published list. Unless otherwise acknowledged all records were made by me.

#### MAMMALS

##### Family DASYURIDAE

##### *Planigale* sp. Marsupial Mouse.

This identification was provided by Mr. M. J. Archer (Qld. Museum).

Four specimens were taken by Mr. L. A. Smith and myself in Aug.-Sept. 1973 (Research Grant awarded by Wapet and the Western Australian Wildlife Authority). The animal is slightly smaller than *Antechinus macdonnellensis* which it closely resembles. The first two specimens were taken by hand in limestone eaves (WHB) on the western side of the island. The third was killed during the blasting of a termite mound, and the fourth was taken in a pit trap in 1.5 metre high *Triodia angusta*. This record makes eight species of marsupials on Barrow Island. Although the same collecting techniques had been used by me on Barrow Island for a period of 10 years, this is the first time that this animal was noted. It is possibly undergoing some form of cyclic increase in numbers and it may not be easily found again for a number of years.

##### Family MACROPODIDAE

##### *Bettongia lesueur*. Boodie Rat.

In 1972 an inspection team from the Fisheries and Wildlife Department of W.A. confirmed its occurrence on Boodie Island, the furthest south island in the adjacent chain close to Barrow Island. There appears to be no physical difference between Boodie and Barrow specimens in the field but no specimens have been taken of the former group and identity is based on field observation and pickup skulls.

##### Family DUGONGIDAE

##### *Dugong dugon*. Dugong.

Several individuals were observed at various times on the west coast. One animal found alive on Turtle Bay beach was photographed before returning it to the water: it had severe scars of a shark attack. It is recorded